/284 cont./

239
321 The utilization of the animal kingdom for technical purposes is likewise confined within narrow limits.

F. Bones have multiple uses when sharpened to a point. The thigh bones of the jaguar, tapered and sharpened, are used as spear points; the cutting surfaces and edges are carefully smoothed. Howling-monkey bones (ǎzōdǐ) find the most use as lip plugs, piercer for lip and ear holes, and points for the fish arrows. It is not known what kind of bones are used to make the small needles for sewing hats, which are round in front and bear a small eye in the flat end-piece (Ill. 140). All these /285/ bone tools are well polished. Unfortunately I could learn nothing about how they are made.

A piece of the breastplate of the tartaruga is made into flat spindle disks (Ill. 144a).

The hard palates of the pirarucú fish are used in their crude state as a grater, as well as the teeth for ornaments and tools. The incisors of the capybara are fastened as the supreme ornament on the mother-of-pearl disks of the ear rosettes of small [935] children. These teeth are among the most valuable objects of the Indians, for the timid animals are very difficult to hunt. They are kept in pairs of equal size, usually a pair of smaller ones and a pair of larger ones are placed one on top of the other, glued with wax, and wound with cotton threads (kūwǎ, Ill. 64). The tooth of the cutia is lashed to a wooden stem with cotton thread and, mounted in this way, serves for grooving the clubs (Ill. 122).

Shells are used in part in the crude state, in part worked. The most important kinds are (Pl. 45, Ill. 1 a-c): the triangular shell (būlǔ), the mother-of-pearl shell (ŏzĭnŏhŏ), the two-pointed shell (dălă, ĭdjé). Lip plugs are made from the fine two-pointed shell or the thick triangular shell, and from the latter in such a way that the freely projecting, arched end is removed from the thick, hinged part of the shell. Nothing is known about the manner of manufacture; the edges are well ground. Mother-of-pearl shells are ground on stone into small round disks for ear rosettes and stool eyes. Crude, rectangular pieces of shell with

/285 cont./

237 two holes in the center are sewed on the belt of the long string-
321 skirts of the girls (Ill. 69), as well as on the cylinder-bands of the dance masks. As spoons and scrapers they use mother-of-pearl mussel shells, which are only slightly worked, but are usually used in the crude state.

287 Concerning the feather technique, see below in connection with the tying, knotting, and plaiting technique /see pp. 233 ff./.

824 The utilization of the vegetable kingdom is very extensive. The cane species are used remarkably little; apparently the region is poor in them.

G. The wood of trees is made into boats, poles, oars, mortars and pestles, stools, lances, bows, throwing boards, arrow points, manioc grating boards, lip plugs, comb teeth, etc. Soft or hard woods are used, depending on the purpose. I was not always able to learn which kinds of wood were used for the individual implements. Spears consist of so-called aruera wood, bows of hard palm wood, boat poles of long, slender trees with very light wood. Soft wood is used for stools, lip plugs, and manioc grating boards; all the other implements consist of hard wood. Of the cane species, taquara is used as arrow shafts, gibade and similar types as ear rods.

396 I am most fully informed about boatbuilding. The boats
[962] are built by the men. All of them understand this art, though
[937] many confine themselves to buying boats from others in exchange
[963] for an iron axe. /286/ Apparently certain persons make boats in larger numbers for the village and then sell them. Thus, a few hours downstream from Schischá I met two families from this village who had erected temporary huts for themselves here in the wilderness, in order to build boats in the vicinity. The making of a small boat is said to take four days, a larger one eight days. These time estimates, however, seem to me to be
[824] very low. The trunk of the lantim tree (Calophyllum: dā̄lĭ́ŏ) is used as material for the boats; Ehrenreich mentions pau d'arco and jatoba, Königswald also jatahy and others. The trees are felled in the forest and crudely worked; first the outer shape is hewed out with an ax and then the interior is likewise hollowed